# The cost is too high.

2015



April 2015

Dear Parents,

The Barrington Public Schools and the BAY Team have worked together for the past 15 years to educate and inform parents and students about the dangers of substance abuse to their overall health and safety.

With national and state laws quickly changing about marijuana regulations and with the creation of new products such as e-cigarettes, it can be very challenging to stay informed. This guide provides parents with updated information about the effects of marijuana on young people. It also includes the latest information about e-cigarettes.

It is our hope that you will find this guide "The Cost is Too High" to be a useful resource when talking with your children about the dangers of substance use.

Sincerely,

Michael Messore

Superintendent, Barrington Public Schools

# What are the costs?



# Marijuana affects learning.



- Marijuana affects a young person's ability to concentrate and retain information.
- Marijuana use is linked to poor grades, a higher dropout rate, and lower IQ.

# Marijuana is addictive.



- 1 in 6 people who start smoking marijuana in their teens will become addicted.
- Marijuana is the #1 reason RI teens are admitted for inpatient treatment of illicit drug abuse.

# Marijuana affects driving.



- People who drive high are 2× as likely to cause a crash resulting in injury or death.
  - Marijuana causes reduced attention, reaction time and impaired ability to track objects.
- 1 in 5 teen drivers reports driving under the influence of marijuana.

National Institute on Drug Abuse (NIDA)

RI has the unfortunate distinction of being the state with the highest incidence of past month marijuana use amongst people 12 years and older, 13% versus 7% in the US, overall.

SAMHSA, Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health

### **WHAT IS MARIJUANA?**

Marijuana refers to the dried leaves, flowers, stems and seeds from the hemp plant Cannabis sativa, which contains the psychoactive (mind-altering) chemical delta-9-tetrahydrocannabinol (THC), as well as other related compounds. This plant material can also be concentrated in a resin called hashish or a sticky black liquid called hash oil.

Marijuana is usually smoked in hand-rolled cigarettes (joints) or in pipes or water pipes (bongs). It is also smoked in blunts—cigars that have been emptied of tobacco and refilled with a mixture of marijuana and tobacco.

Most recently, marijuana is being processed by butane extraction into a high THC-concentration that can be used in e-cigarettes or vaping devices.

# Effect on Learning

Frequent marijuana use by teens can lead to a permanent drop in IQ.

Meier, MH et al. Proceedings of the National Academy of Sciences 109(40), 2012

# **How Does Marijuana Affect the Brain?**

When someone smokes marijuana, THC rapidly passes from the lungs into the bloodstream, which carries the chemical to the brain and other organs.

Marijuana acts upon specific targets in the brain, called cannabinoid receptors, which influence pleasure, memory, thinking, concentration, sensory and time perception, and coordinated movement.

Neocortex

**Spinal Cord** 

Regulates: transmission of information between body and brain.

THC effect: altered pain sensitivity

Research has shown that, in chronic users, marijuana's adverse impact on learning and memory can last for days or weeks after the acute effects of the drug wear off.

Addiction is a form of learning. Just as learning a fact stimulates a synapse in the brain, substances build a reward circuit leading to a stronger addiction in teens.

Dr. Frances Jensen in NPR Fresh Air Segment, 1/28/15

**Brain Stem** 

Regulates: information between brain and spinal column.

THC effect: anti-nausea effects

# Regulates: complex thinking, feeling and movement THC effect: altered thinking, judgement and sensation **Basal Ganglia** Regulates: planning/starting a movement THC effect: slowed reaction time **Nucleus Accumbens** Regulates: motivation and reward THC effect: euphoria Hypothalamus Regulates: eating, sexual behavior THC effect: increased appetite Amygdala Regulates: emotions, fear, anxiety THC effect: panic/paranoia Cerebellum **Hippocampus** Regulates: motor coordination, balance Regulates: learning new information THC effect: impaired coordination THC effect: impaired memory

# **Effect on Education**

# Marijuana can impact your teen's achievement in the classroom, on standardized tests and in the future.

- Marijuana use impairs the ability to concentrate and retain information. This can be especially problematic during peak learning years.
- · Marijuana use is linked to poor grades.
- Marijuana and underage drinking are linked to higher dropout rates. A teenage marijuana user's odds of dropping out are more than 2× that of a non-user.
- Marijuana is addictive. It can cause problems for young users when their bodies and brains are still developing, which decreases their likelihood of success.
- The earlier kids start using marijuana, the more likely they are to become dependent on this or other illicit drugs later in life.
- Even occasional use negatively impacts emotion, motivation, and decision making. More research is coming on this emerging concern.

Not getting to class, changing majors, the B average becomes a C average – they are small things that aren't disastrous but they can change the course of where you are heading."

Alan J. Budney, researcher and professor at the Geisel School of Medicine at Dartmouth, NY Times

# HEAVY MARIJUANA USE IN TEENS IS LINKED TO



LOWER GRADES AND EXAM SCORES



LESS LIKELY TO GRADUATE FROM HIGH SCHOOL OR ENROLL IN COLLEGE

National Institute on Drug Abuse (NIDA)

# Marijuana's Effect on Mental Health

### MARIJUANA AND PSYCHOSIS

People who smoke marijuana are 3-5× more likely than nonusers to have a psychotic disorder. High potent marijuana use alone was responsible for 24% of adults presenting with first-episode psychosis in a recent British study. Today's marijuana has a much higher THC content.

### **MARIJUANA AND ANXIETY**

While it is true that marijuana contains cannabinoids that can act on brain receptors responsible for lessening anxiety, chronic use of marijuana will "down-regulate" (or decrease the availability of) these receptors resulting in increased anxiety. This can also trigger "a vicious cycle" of increasing marijuana use that in some cases leads to addiction.

Neuron Mar 2014, Vanderbilt University

### MARIJUANA AND SUICIDE

Teenagers who start smoking marijuana daily before the age of 17 are 7× more likely to commit suicide. Even occasional use of marijuana is associated with increased risk of suicide.

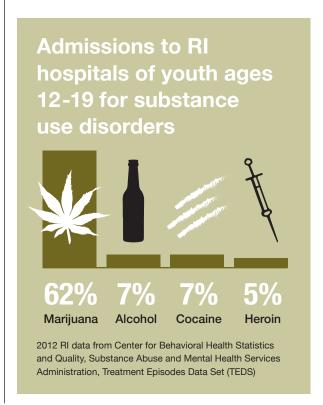
Learnaboutsam.org, Lancet Psychiatry

⇒ People with family history of mental health issues such as depression, anxiety, bipolar disorder, schizophrenia and addiction especially should avoid marijuana use.

### MARIJUANA AND ADDICTION

- Research has found that 1 in 11 of all marijuana users will become addicted to the drug.
- If a person begins using under the age of 18, that number rises to 1 in 6 people.
- Marijuana is the #1 reason adolescents are admitted to substance-abuse treatment in the U.S.
- Users who try to quit experience withdrawal symptoms that include irritability, anxiety, insomnia, appetite disturbance and depression.

National Institute on Drug Abuse (NIDA)



# Alcohol vs. Marijuana: Pick your poison

BOTH MARIJUANA AND ALCOHOL ARE HARMFUL; NEITHER IS SAFE FOR YOUR TEEN'S BRAIN.



Most marijuana use begins in adolescence, the age group most likely to suffer from negative effects.

of the 2.4 million people who began using in the last year were ages 12-20.

Oh, the myth is teens are resilient, they'll be fine. He can just go off and drink... they'll bounce back. Actually, it's quite the contrary. The effects of substances are more permanent on the teen brain. They can be more toxic to the teen than the adult."

Dr. Francis Jensen, author of the Teenage Brain From Terry Gross interview



# What does Big Marijuana look like?

Excerpts from June 11, 2014, Drs. Sharon Levy and Kimber Richter, New England Journal of Medicine

The tobacco industry has provided a detailed road map for marijuana: deny addiction potential, downplay known adverse health effects, create as large a market as possible as quickly as possible, and protect that market through lobbying, campaign contributions, and other advocacy efforts.

The marijuana industry will have unprecedented opportunities for marketing on the internet, where regulation is minimal.

History and current evidence suggest that simply legalizing marijuana, and giving free rein to the industry, is not the answer. To do so would be to, once again, entrust private industry with safeguarding the health of the public – a role that it is not designed to handle.

Tobacco companies lied to America and today we are paying the price. Tobacco costs our country at least \$200 billion annually – which is about 10× the amount of money our state and federal governments collect from today's taxes on cigarettes and other tobacco products.

Big Tobacco will likely take over marijuana once it is (legalized) and up and running.







Just to be clear, this administration, this office, is opposed to legalization. I've never been in favor of either medical marijuana or legalization... you can begin to see that the exact same things that we had to undo with the tobacco industry are now happening with the commercialization of marijuana." – ONDCP Director Michael Botticelli on marijuana

Office of National Drug Control Policy (ONDCP)

# **Edibles**

According to a report commissioned by tobacco company Brown and Williamson, "The use of marijuana... has important implications for the tobacco industry in terms of an alternative product line. (We) have the land to grow it, the machines to roll it and package it, the distribution to market it."

Altria, the parent company of Phillip Morris (the largest cigarette maker in the US) recently bought the domain names "AltriaCannabis.com" and "AltriaMarijuana.com"

learnaboutsam.com



Marijuana infused soda



Marijuana edible candy and regular candy

### WHAT ARE MARIJUANA EDIBLES?

Marijuana concentrates, with a high concentration of THC, can also be mixed into a wide variety of foods such as candy, baked goods, and even sauces. These are called edibles.

Edibles, once created for medical marijuana users who did not want to smoke, are finding their way to youth due to their appealing forms and packaging. In states with legalized recreational marijuana, edibles are popular products to use and easy to hide.

In Colorado in 2014, almost 3 million units of marijuana-infused edibles were sold through the recreational program.

Colorado Department of Revenue Annual Update 2/27/15



Answers: top row: a – marijuana edible, b – regular bottom row: a – regular, b – marijuana edible

# Impaired Driving

Use of any mind-altering drug (like marijuana) makes it highly unsafe to drive a car and is illegal – just like driving after drinking alcohol.

Marijuana negatively affects a driver's attentiveness, perception of time, distance and speed, and ability to draw on information from past experiences.

Research shows that impairment increases significantly when marijuana use is combined with alcohol.

NIH Drug Facts 12/14 at www.drugabuse.gov

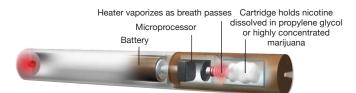
# DANGER: TEENS DO NOT VIEW DRIVING UNDER THE INFLUENCE OF MARIJUANA OR ALCOHOL TO BE DANGEROUS.

- Of the teens who admit to driving under the influence of alcohol, 40% say it has no impact or even improves their driving.
- Of the teens who admit to driving under the influence of marijuana, 75% say it has no impact or even improves their driving.

# **DRIVERS UNDER** THE INFLUENCE OF **MARIJUANA** ARE **TO CAUSE A SERIOUS OR** DEADLY CRASH. BMJ 2012 23% of teens admit to driving under the influence of alcohol, marijuana, or other drugs - that's teen drivers on our roadways. Statistics from 2013 SADD/Liberty Mutual study

 ⇒ 62% of 8th graders believe there is great risk smoking tobacco cigarettes while only 15% believe there is harm using e-cigarettes.

Monitoring the Future, 2014



# E-Cigarettes and Vaping

# What are E-Cigarettes?

E-Cigarettes are devices that use a battery to heat a liquid to create an aerosol that is breathed into the lungs. They go by other names such as e-cigs, e-hookahs, hookah pens, vaporizers, vapes, or mods.

# Why are they dangerous?

E-cigarettes can contain a variety of liquids. Nicotine and other chemicals can cause cancer, birth defects or other health



problems. Nicotine liquid is poisonous if swallowed, and is absorbed by the skin or gets in the eyes. Calls to Poison Control Centers have been increasing due to nicotine poisoning.

Also, e-cigarettes are often used with a high potency marijuana called wax, shatter, dab, or honey oil.

# Are they safe to smoke indoors?

No. E-cigarettes pollute the air with tiny particles that get trapped in the lungs.

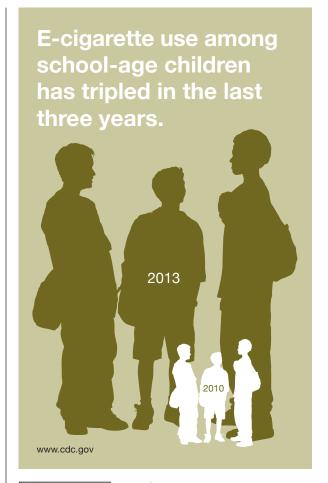
# Aren't they safer than tobacco cigarettes?

There are currently **no** regulations for e-cigarettes in terms of labels or content. Many nicotine liquids are made in China and some say they do not contain nicotine when, in fact, they may.

# Vaping Marijuana

Vaporizing marijuana can lead to toxic levels of ammonia causing lung irritation, nervous system effects and asthma attacks.

Colorado Department of Public Health





# E-Cigarettes are being targeted towards youth.

Nicotine liquid comes in fruit and candy flavors that appeal to children who may taste or drink the e-liquid. The liquid comes in small bottles that look like eye or nose drops.

# How to convince your teen not to use?

# If your teen says...

# "Marijuana is just a plant; how harmful can it be?"

You say: You know how bad tobacco is; smoking marijuana is even worse for your health. It contains over 400 carcinogens. It can also hurt your future as marijuana use in any form makes it harder to concentrate and retain information.

# "Marijuana is not addictive."

You say: It is addictive. More teens are admitted for treatment for marijuana use disorders than any other drug.

# "You smoked pot and you turned out fine."

You say: This isn't about my past; it's about your future. Marijuana is much more potent nowadays and teens are in many more risky situations than the teens of my generation were, including driving cars.

# "I know straight "A" students who smoke pot."

You say: Most kids who smoke pot don't make straight "A's". Research shows that teens with an average grade of "D" or below are 4× more likely to use marijuana than straight "A" students.

# "Marijuana makes me feel good."

You say: There are many better ways to feel good that are healthy and legal.

Two-thirds
of youth ages
13-17 say losing
their parents'
respect is one of
the main reasons
they don't smoke
marijuana or use
other drugs.

# "Marijuana must be okay; it's used as medicine."

You say: So are many other drugs that you know would be harmful for you to take as a healthy teenager. The Federal government still classifies marijuana as an illicit drug that has no medical benefits. Until more research is done we really don't yet know whether smoking marijuana has any benefits that could outweigh the huge risks of its use. There is a pill form of marijuana, which is available by prescription for certain very ill patients. That certainly doesn't mean it is something that is right for you.

# **Facts for Parents**

# Setting rules and enforcing them can make all the difference in teens' lives.

- Youths who are not regularly monitored by their parents are 4× more likely to use drugs.
- Parents are the most powerful influence on their kids when it comes to drugs. Two-thirds of youth ages 13-17 say losing their parents' respect is one of the main reasons they don't smoke marijuana or use other drugs.

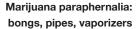
Parents. The Anti-Drug, 2012

# What do I do if I find my teen is using marijuana or other drugs or breaking other family rules?

- · Keep calm.
- Communication is key! When dealing with behavior problems it is important to communicate your disapproval of the behavior without making your teen feel rejected or like they are a bad person.
- Enforce the consequences that your family set for breaking the rules.
- Seek professional help if necessary. Contact Student Assistance Services at your teen's school.
- For more information on marijuana and other drugs, visit www.drugabuse.gov and www.teens.drugabuse.gov.











### WATCH LIST FOR PARENTS

- · Changes in friends
- Negative changes in schoolwork, missing school, or declining grades
- Increased secrecy about possessions or activities
- Use of incense, room deodorant, dryer sheets, or perfume to hide smoke or chemical odors
- Subtle changes in conversations with friends,
   e.g. more secretive, using "coded" language
- Change in clothing choices: new fascination with clothes that highlight drug use
- · Increase in borrowing money
- Evidence of drug paraphernalia such as pipes, e-cigs, rolling papers, etc.
- Bottles of eye drops, which may be used to mask bloodshot eyes or dilated pupils
- New use of mouthwash or breath mints to cover up the smell

# Your Teen's Future

### MARIJUANA USE ON THE JOB

Drugs in the workplace are responsible for  $4\times$  the accidents on the job and  $5\times$  the accidents off the job.

The majority of people impaired by drugs in the workplace test positive for marijuana.

A recent study of postal workers showed people using substances (more often than not this was marijuana) had 55% more industrial accidents, 85% more injuries, and 75% more absenteeism than workers who did not use substances.

Marijuana use in employees is responsible for increases in:

- · absences
- tardiness
- · accidents
- · workers' compensation claims
- · job turnover

The available workforce is decreasing due to marijuana use. Many employers use drug testing to determine eligibility for work. Companies that receive federal dollars are required to drug test.

Scott Camp, Working Partners, CADCA Presentation 2015

→ Youth who enter the workforce through summer jobs may be exposed to older workers who use marijuana. Parents should be aware of this potential point of access for their teens and start a conversation with their teens.

# HEAVY MARIJUANA USE IN TEENS IS LINKED TO



Lower satisfaction with life



More likely to earn a lower income



More likely to be unemployed

National Institute on Drug Abuse (NIDA)



# **Rhode Island Laws**

# WHICH LEGISLATION DOES RHODE ISLAND CURRENTLY HAVE?

As of January 2015 RI currently has a **medical marijuana law** and **decriminalization** of marijuana amounts less than 1 ounce.

### **MEDICAL MARIJUANA**

State laws that allow an individual to defend him/herself against criminal charges of marijuana possession if the defendant can prove a medical need for marijuana. Federal Law prohibits medical marijuana except for a prescribed pill form of the drug. There is also a nasal form of marijuana currently in FDA clinical trials.

The RI Department of Health oversees the medical program and describes it in this way: "Rhode Island is one of 20 states with a medical marijuana program. A physician has "authorized" the patient to obtain a medical marijuana card that allows the patient to purchase, grow, and possess medical marijuana in spite of the fact that it remains a Drug Enforcement Administration (DEA) Scheduled I drug that cannot be prescribed by virtue of state and federal law. The rapid expansion of medical marijuana has put all physicians in the awkward position of "authorizing" a drug that is not supported by the American College of Physicians and the American Medical Association."

The Food and Drug administration (FDA) has found no evidence to support the medical use of smoked marijuana for treatment and therefore has not approved it as a medicine that can be prescribed by physicians. According to the Institute of Medicine (IOM), smoking marijuana is an unsafe delivery system that produces harmful effects.

### MARIJUANA DECRIMINALIZATION

Laws or policies adopted in various states that reduce the penalties for possession and use of small amounts of marijuana from criminal sanctions to fines or civil penalties.

The penalty for a first offense of possession of under an ounce of marijuana is a fine of \$150. Youth must also perform community service and/or complete a drug awareness class.

It is illegal to drive under the influence of any marijuana.

# WHAT WOULD LEGALIZED MARIJUANA MEAN IN RI?

In states that have legalized marijuana, anyone over the age of 21 can go into stores that have a license to sell marijuana. It means that adults can possess marijuana and smoke marijuana usually up to a specified amount. This also means this product can be advertised and heavily promoted (think Little League sponsor). This can mean much greater access for youth as it becomes even more readily available and in more discrete forms such as candy or foods.

While it seems simple to say, "tax and regulate" like alcohol or tobacco, it is not that simple. Putting in place regulations and enforcing them takes resources.

Legal marijuana does not guarantee that the black market will go away. In Colorado the black market is now thriving and avoiding taxes and regulations, making more marijuana accessible to youth.

### The BAY Team

Town Hall 283 County Road Barrington, RI 02806 PRSRT STD U.S. POSTAGE **PAID** Permit #2475 Providence, RI

### About the BAY Team www.thebayteam.org

The BAY Team is an award winning community coalition comprised of parents, teachers, youth, law enforcement, businesses, faith leaders, healthcare providers, and other community members. Our mission is to promote a safe and healthy Barrington through collaboration and communication. The BAY Team staff are founding members of the Ocean State Prevention Alliance (OSPA) and RI affiliates of Smart Approaches to Marijuana (SAM).

### **OSPA** www.oceanstateprevention.org

The Ocean State Prevention Alliance (OSPA) is a membership alliance dedicated to supporting and advocating for effective prevention initiatives in reducing marijuana use in youth and prevents the dangers of drugged driving as a result of marijuana use. The group aims to reduce the negative impact that marijuana is likely to have on Rhode Island youth.

### SAM www.learnaboutsam.org

Smart Approaches to Marijuana is a group of experts and know-ledgeable professionals advocating for a fresh approach that neither legalizes, nor demonizes, marijuana.

We wish...

- To inform public policy with the science of today's marijuana.
- To have honest conversation about reducing the unintended consequences of current marijuana policies, such as lifelong stigma due to arrest.
- ▶ To prevent the establishment of Big Marijuana that would market marijuana to children — and to prevent Big Tobacco from taking over Big Marijuana. Those are the very likely results of legalization.
- To promote research on marijuana in order to obtain FDAapproved, pharmacy-dispensed, cannabis-based medications.

ALL COMMUNITY MEMBERS ARE INVITED TO LEARN THE LATEST FACTS ON MARIJUANA:

### MARIJUANA REGIONAL MEETING

APRIL 8TH, 2015 ST. ANDREW'S SCHOOL | 7 – 9 PM

